Translation

PCT/JP2003/013952

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CD03-085	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/013952	International filing date (*day/month/year*) 30 October 2003 (30.10.2003)	Priority date (*day/month/year*) 01 November 2002 (01.11.2002)
International Patent Classification (IPC) or national classification and IPC B01D 53/94		
Applicant THE CHUGOKU ELECTRIC POWER CO., INC.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
30 March 2004 (30.03.2004)	29 September 2004 (29.09.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2003/013952

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished
pages* _____, as amended (together with any statement) under Article 19
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing *(specify)*: _____
- ☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing *(specify)*: _____
- ☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 03/13952

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-22	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims		NO

2. Citations and explanations

Document 1: JP 04-338217 A (Kyushu Electric Power Co., Inc.), 25 November 1992

Document 2: JP 2002-155737 A (Toyota Motor Corporation), 31 May 2002

The inventions set forth in claims 1 to 22 do not involve an inventive step in the light of documents 1 and 2 cited in the international search report.

(Claims 1 to 16)

Document 1 sets forth a catalyst control method for an exhaust gas denitration device having a plurality of catalyst layers, wherein exhaust gas is measured between each catalyst layer and the denitration rate and load rate is calculated, thereby monitoring deterioration in catalyst performance, and catalysts which have deteriorated in performance are regenerated or replaced (see claim 1, paragraphs [0001] and [0016]). Moreover, a variety of methods, such as the removal of deteriorated portions, were known as methods of regenerating a catalyst prior to the priority date of this application (see JP 61-227846 A, for example), and it is common practice to reutilize catalysts which have been regenerated, and to maintain purifying performance by layering catalysts on

top of one another, therefore it would be easy for a person skilled in the art to combine these matters to constitute a control method in the light of document 1. In addition, charging an appropriate amount of money when restoring the purifying performance of a device is a matter which a person skilled in the art could accomplish according to the situation, and measuring deterioration in a catalyst by sample measurement as an alternative to measuring the exhaust gas between catalyst layers is merely the difference between whether measurement is carried out inside or outside a device, and as such is an insignificant difference.

Claims 17 to 22

Document 2 sets forth a purification performance recovery control method, wherein in order to restore an exhaust gas purifying gas whose performance has deteriorated, information is accumulated, and the deterioration timing is forecast and the recovery process is carried out at the appropriate timing based on said information (see paragraphs [0081] and [0109] to [0131]). Moreover, in control methods for exhaust gas purification catalysts, carrying out the purification performance recovery process at appropriate timing in order to prevent a drop in purifying performance is an issue which would be addressed as a matter of course, therefore it would be easy for a person skilled in the art to conceive of applying the control method set forth in document 2 to the exhaust gas denitration device set forth in document 1 to accumulate a variety of information and carry out appropriate control based on said information. Control parameters and control devices are matters which a person skilled in the art could determine as necessary.